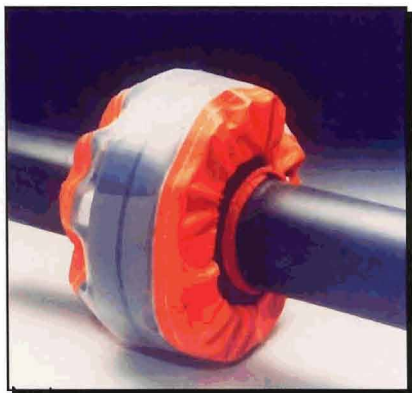


THE VUE-GARD® SAFETY SHIELD PRODUCT-LINE

PREVENTS HAZARDOUS SPRAYOUTS AND CONTRIBUTES TO A SAFE WORK ENVIRONMENT

- "SEE-THRU" SHIELD PERMITS VISUAL INSPECTION OF PIPING JOINTS
- CONSTRUCTED OF A SPECIALLY DESIGNED TFE AND CLEAR ECTFE
- OPTIONAL NIPPLE ALLOWS RECAPTURE OF LEAKING CHEMICALS

AVAILABLE FOR FLANGES, VALVES, FLOW INDICATORS, EXPANSION JOINTS AND THREADED CONNECTIONS



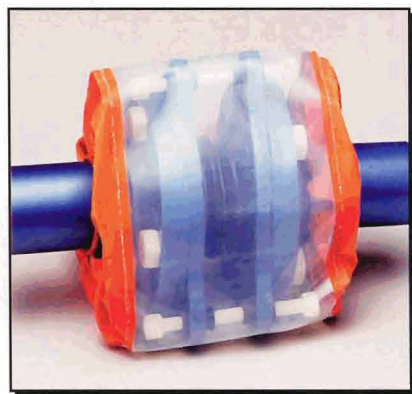
VUE-GARD® SHIELD



VUE-DRAIN-GARD® SHIELD



VUE-VALVE-GARD® SHIELD



VUE-EXPANDO-GARD® SHIELD



**VUE-GARD® SHIELD
FOR FLOW INDICATOR**



**VUE-GARD®
BONNET SHIELD**

- **Physical Characteristics:**
 - Temperatures up to 300° F (150° C) - Broad spectrum chemical resistance
 - Pressure resistance up to 1000 PSI (69 Bar)
- Available for both standard and customized sizes to meet special requirements



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ENHANCING SAFETY IN THE PLANT ENVIRONMENT

THE PPL (VUE) "SEE THRU" SAFETY SHIELD

Combines the high quality characteristics of the RAMCO® PPL (Polypropylene) SPRA-GARD® Shield with the added benefit of clear ECTFE as the "See Thru"



- PREVENTS SPRAYOUTS OF HAZARDOUS OR TOXIC CHEMICALS
- PERMITS EASY VISUAL INSPECTION OF PIPE JOINTS
- Fabricated for flanges, valves, flow indicators, expansion joints and threaded connections
- Features an overlap design that wraps around the pipe joint completely, preventing both frontal and lateral sprayouts
- Demonstrates marked versatility with broad spectrum chemical resistance
- Physical characteristics:
 - Temperatures up to 225° F (170° C)
 - Pressure resistance up to 1100 PSI (76 Bar)
 - Inhibited against U/V degradation
- Available in all ANSI and International Standards and customized for special sizes or configurations

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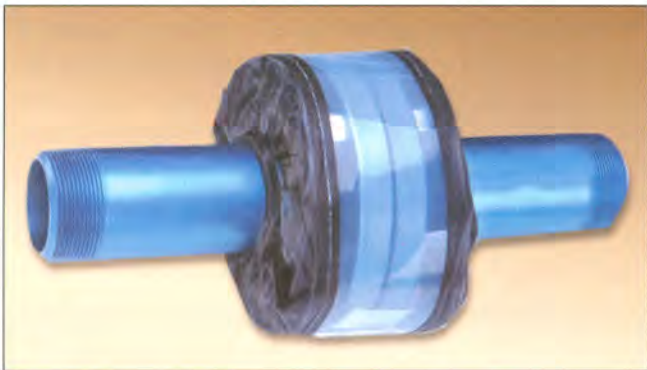
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While the PPL Spr-Gard® Shield was initially “application specific”, the most valuable property of PPL is versatility. This thermoplastic cloth demonstrates temperature and pressure resistance up to 225° F (107°C) and 1100 psi (76 bar), respectively; its chemical tolerance is greatly affected by concentration. For example, at sulfuric acid concentrations of 30% or less, PPL Spr-Gard® Shields are recommended up to line temperatures of 200° F (93° C). However, with 93% or 98% concentrations its use is limited to systems with ambient temperatures.

PPL (VUE) SPRA GARD® SAFETY SHIELDS



▲ RAMCO® PPL (Vue) Spr-Gard® Shield

This “See Thru” shield combines the high quality of the RAMCO® PPL Spr-Gard® Shield with the added benefit of clear ECTFE. It is fabricated according to the specifications of all RAMCO® wrap-around shields. Thus, this shield safeguards against both frontal and lateral sprayouts. Its uniqueness, as with the RAMCO® Vue-Gard® Shield, permits easily visual inspection of all pipe connections. The PPL (Vue) Spr-Gard® Shield withstands temperatures up to 225° F (107° C) and pressures to 1000 psi (69 bar).

RAMCO® ECONO-GARD® SAFETY SHIELDS

Because of the apparent need for an economical but dependable safety shield, RAMCO® developed the Econo-Gard® Shield. Great attention has been paid to its design to ensure that its economic features have not

been achieved at the expense of safety. The modest price of this shield is possible because its fabrication utilizes non-labor intensive heat sealing methods.

Econo-Gard® Safety Shields are available in two thermoplastic materials:

- polyethylene (PE)
- polyvinyl chloride (PVC)
(white, red and clear)

While each of the Econo-Gard® Shields has slightly different characteristics, depending on the materials from which they are fabricated, both are manufactured with the same design and feature identical configurations.

The conditions under which Econo-Gard® Shields may be used are limited. They are suitable for temperatures up to 140° F (60° C) and in the presence of certain chemicals, such as concentrated acids, only at lower temperatures. However, they have wide applications, particularly in conditions with ambient temperatures and pressures of 300 psi (21 bar) or lower.



▲ RAMCO® PVC Red Econo-Gard® Shield

Similar to Spr-Gard® Shields, Econo-Gard® Shields also wrap-around. Produced from special thermoplastic materials according to RAMCO® specifications, these shields are a three-ply lamination with an inner core of non-woven spun cloth interfaced between two sheets of either PE or PVC. Consequently, a sprayout is prevented by six layers. Four layers, consisting of PE or PVC film, are chemically resistant; the remaining two of non-woven spun cloth provide tensile and burst strength.



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RAMCO VUE-GARD® PRODUCT SPECIFICATIONS

1.0 TECHNICAL REQUIREMENTS

The VUE-GARD® is a transparent safety shield fabricated for use on flanges, valves, threaded connections, pumps, flow meters or special applications. This “See-Thru” type safety shield is designed to protect down to the outside diameter of the pipe and prevent dangerous lateral sprayouts. It is designed to prevent injury to personnel or damage to adjoining equipment in the event of a sprayout or leak at a joint or connection.

The VUE-GARD® Safety Shield permits visual inspections of the connections, valves, etc., on which they are installed.

1.1 Specially designed Orange Teflon-coated fiberglass and a clear ECTFE film are the preferred materials.

1.2 The VUE-GARD® Shield shall be constructed of orange teflon-coated fiberglass fabric on each side, attached to a clear ECTFE film in the center.

No holes through the ECTFE or any reinforced surface of the shield are permitted.

Tie-down cords to be made of 100% teflon-coated fiberglass, orange in color, with a diameter no smaller than 0.125 inch.

The VUE-GARD® Safety Shield shall be of adequate width to extend beyond the flange bolts and tie down to the pipe on either side of the flange face.

No tools or special equipment required for installation.

1.3 The major characteristics of the VUE-GARD® include:

Temperature	Up to 300°F (150°C)
Pressure	Up to 1000psi (69 bar)
Reaction to UV Radiation	Negligible
Weatherability	See thru window does not haze (cloud) up
Flammability	Non-flammable
Chemical Resistance	Excellent for most chemicals-

Chemical Resistance Guide available upon request

- 1.4 The Safety Shield shall immediately indicate the presence of a system leak through visual inspection.
- 1.5 When subjected to flame, the material of construction should not produce any toxic or corrosive fumes or by-products. The VUE-GARD[®] Safety Shield and tie-down cords should be self-extinguishing, non-flammable and non-combustible.

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RAMCO VUE-DRAIN GARD® (VDG) SAFETY SHIELD **SPECIFICATIONS**

1.0 TECHNICAL REQUIREMENTS

The VUE-DRAIN GARD® is a transparent safety shield fabricated for use on flanges, valves, threaded connections, pumps, flow meters or special applications. This “See-Thru” type safety shield is designed to protect down to the top of the flange bolts. It is designed to prevent injury to personnel or damage to adjoining equipment in the event of a sprayout or leak at a joint or connection.

The VUE- DRAIN GARD® Safety Shield permits visual inspections of the connections, valves, etc., on which they are installed.

1.1 Specially designed Orange Teflon-coated fiberglass and a clear ECTFE film are the preferred materials with a TEFLON threaded drain nipple used to help control the flow of media.

1.2 The VUE-DRAIN GARD® Shield shall be constructed of orange teflon-coated fiberglass fabric on each side, attached to a clear ECTFE film in the center.

Tie-down cords to be made of 100% teflon-coated fiberglass, orange in color, with a diameter no smaller than 0.125 inch.

Teflon drain that is 3/8”(12mm) OD, 5/16”(8mm) ID, 7/8”(20mm) threads exposed.

The VUE-GARD® Safety Shield shall be of adequate width to extend beyond the flange bolts and tie down to the pipe on either side of the flange face.

No tools or special equipment required for installation.

1.3 The Safety Shield shall withstand temperatures up to 300°F (150°C) and pressures up to 1000psi (69 bar) and not be reactive to UV exposure. The “see-thru” window shall not “haze” due to weathering or UV exposure.

The Safety Shield shall immediately indicate the presence of a system leak through visual inspection and/or leaked media flowing through the drain. An indicating pH patch can be installed in a Teflon sleeve internally in the shield for color changing visual indication.

1.4 When subjected to flame, the material of construction should not produce any toxic or corrosive fumes or by-products. The VUE-DRAIN GARD® Safety Shield and tie-down cords should be self-extinguishing, non-flammable and non-combustible.

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RAMCO VUE-DRAIN GARD® w/ exposed bolts SAFETY SHIELD **SPECIFICATIONS**

1.0 TECHNICAL REQUIREMENTS

The VUE-DRAIN GARD® is a transparent safety shield fabricated for use on flanges, valves, threaded connections, pumps, flow meters or special applications. This “See-Thru” type safety shield is designed to protect down to the top of the flange bolts. It is designed to prevent injury to personnel or damage to adjoining equipment in the event of a sprayout or leak at a joint or connection.

The VUE- DRAIN GARD® Safety Shield permits visual inspections of the connections, valves, etc., on which they are installed.

1.1 Specially designed Orange Teflon-coated fiberglass and a clear ECTFE film are the preferred materials with a TEFLON threaded drain nipple used to help control the flow of media.

1.2 The VUE-DRAIN GARD® Shield shall be constructed of orange teflon-coated fiberglass fabric on each side, attached to a clear ECTFE film in the center.

Tie-down cords to be made of 100% teflon-coated fiberglass, orange in color, with a diameter no smaller than 0.125 inch.

Teflon drain that is 3/8”(12mm) OD, 5/16”(8mm) ID, 7/8”(20mm) threads exposed.

The VUE-DRAIN GARD® Safety Shield shall be of adequate width to extend beyond the flange and tie down above the bolts allowing them to be exposed while still providing lateral spray out protection.

No tools or special equipment required for installation.

1.3 The Safety Shield shall withstand temperatures up to 300°F (150°C) and pressures up to 1000psi (69 bar) and not be reactive to UV exposure. The “see-thru” window shall not “haze” due to weathering or UV exposure.

The Safety Shield shall immediately indicate the presence of a system leak through visual inspection and/or leaked media flowing through the drain. An indicating pH patch can be installed in a Teflon sleeve internally in the shield for color changing visual indication.

1.4 When subjected to flame, the material of construction should not produce any toxic or corrosive fumes or by-products. The VUE-DRAIN GARD® Safety Shield and tie-down cords should be self-extinguishing, non-flammable and non-combustible.

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RAMCO VUE-GARD® (VUE) with 100% PTFE THREAD/CORD **SAFETY SHIELD SPECIFICATIONS**

1.0 TECHNICAL REQUIREMENTS

The VUE-GARD® is a transparent safety shield fabricated for use on flanges, valves, threaded connections, pumps, flow meters or special applications. This “See-Thru” type safety shield is designed to protect down to the top of the flange bolts. It is designed to prevent injury to personnel or damage to adjoining equipment in the event of a sprayout or leak at a joint or connection.

The VUE- GARD® Safety Shield permits visual inspections of the connections, valves, etc., on which they are installed.

1.1 Specially designed Orange Teflon-coated fiberglass and a clear ECTFE film are the preferred materials.

1.2 The VUE-GARD® Shield shall be constructed of orange teflon-coated fiberglass fabric on each side, attached to a clear ECTFE film in the center.

Tie-down cords to be made of 100% PTFE Teflon, white in color, with a diameter no smaller than 0.125 inch.

1.3 100% PTFE thread shall be used in the construction.

The VUE-GARD® Safety Shield shall be of adequate width to extend beyond the flange bolts and tie down to the pipe on either side of the flange face.

No tools or special equipment required for installation.

1.4 The Safety Shield shall withstand temperatures up to 300°F (150°C) and pressures up to 1000psi (69 bar) and not be reactive to UV exposure. The “see-thru” window shall not “haze” due to weathering or UV exposure.

The Safety Shield shall immediately indicate the presence of a system leak through visual inspection and/or leaked media flowing through the drain. An indicating pH patch can be installed in a Teflon sleeve internally in the shield for color changing visual indication.

1.5 When subjected to flame, the material of construction should not produce any toxic or corrosive fumes or by-products. The VUE-GARD® Safety Shield and tie-down cords should be self-extinguishing, non-flammable and non-combustible.

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VUE-GARD Safety Shield with Acid Detection Paint